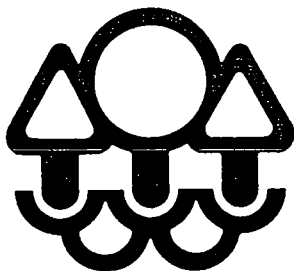


Frank Wallner

EPA Region 5 Records Ctr.



370798



## Minnesota Pollution Control Agency

OCT 15 1986

0390

Ms. Becky Comstock  
Dorsey and Whitney  
2200 First Bank Place East  
Minneapolis, Minnesota 55402

Dear Ms. Comstock:

Re: Nutting Site: Remedial Investigation and Feasibility Study

The Minnesota Pollution Control Agency (MPCA) staff has completed its review of the "Remedial Investigation" (RI) for the Nutting Site (Nutting), dated August 11, 1986. The RI was submitted pursuant to Part V, Task A of Exhibit A to the Response Order by Consent (Order) between Nutting and MPCA, dated April 26, 1984.

With the exception of Part V of the Consent Order, the MPCA staff hereby approves the Remedial Investigation in accordance with Part V, Task D of Exhibit A of the Order. Pursuant to Part V of the Consent Order, the RI recommended that a Feasibility Study not be conducted. The Agency staff agree that a full Feasibility Study is probably not needed because of earlier removal and treatment of hazardous waste source material and contaminated soil, the findings of the RI, and Nutting's proposal for contaminated ground water pump out, which appears to be the only remaining response action alternative. However, such a determination should be further documented by Nutting for the MPCA's benefit and, most importantly toward eventual delisting of the Site from the National Priorities List. The particulars of this limited Feasibility Study should be discussed with my staff. The additional documentation shall be submitted within 30 days of receipt of this letter.

As you are aware, the April 26, 1984 Consent Order between Nutting and the MPCA did not require the submittal of a Response Action Plan (RAP) or implementation of Response Actions (RAs). The RAP and RAs will be addressed in a second Consent Order which is being drafted by MPCA staff.

Phone: \_\_\_\_\_

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Ms. Becky Comstock  
Page 2

If you have any questions concerning this letter or the forthcoming Consent Order, please call Frank X. Wallner of my staff at 296-7288.

Sincerely,

*TS/MR*  
Thomas J. Kalitowski  
Executive Director

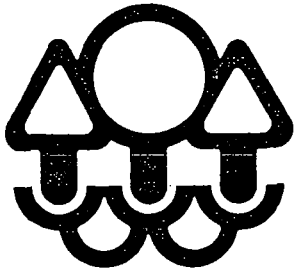
TJK:jb

cc: Dennis Palmer, Barr Engineering  
Stewart Shaft, Nutting  
Jay Puchinski, EPA, Region V

*mk for  
GAP 10/8/86*

*pd 10/10*

Frank Wallner



## Minnesota Pollution Control Agency

NOV 20 1986

Mr. Dennis Palmer  
Barr Engineering Company  
7803 Glenroy Road  
Minneapolis, Minnesota 55435

Dear Mr. Palmer:

This is to acknowledge receipt of a Limited Feasibility Study regarding the Nutting Site. The submittal was beneficial and further justifies the selected pump-out system as the most effective response action. The submittal adequately addresses our request for more information as presented in an Agency correspondence dated October 15, 1986.

I will forward a copy of your letter to the U.S. Environmental Protection Agency (EPA). It should help alleviate any concerns they may have with regard to not conducting a complete Feasibility Study.

Sincerely,

A handwritten signature in dark ink, appearing to read "FXW".

Frank X. Wallner  
Project Manager  
Responsible Party Unit I  
Site Response Section  
Division of Solid and Hazardous Waste

FXW:jb

cc: Becky Comstock, Dorsey & Whitney  
Stuart Shaft, Nutting

Phone: \_\_\_\_\_

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BECKY A. COMSTOCK  
(612) 340-2987

November 14, 1986

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GREAT FALLS, MONTANA 59401  
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P. O. BOX 1179  
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(406) 252-3800

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**RECEIVED**  
NOV 17 1986  
MPCA, SOLID & HAZ  
WASTE DIVISION

Mr. Frank Wallner  
Minnesota Pollution Control Agency  
520 Lafayette Road  
St. Paul, Minnesota 55155

Re: The Nutting Company  
Limited Feasibility Study

Dear Frank:

In accordance with your letter of October 15, 1986 approving the Nutting Remedial Investigation report and asking for a limited feasibility study, enclosed please find a letter from Barr Engineering dated November 13, 1986 constituting the limited feasibility study requested by the Agency. I trust this will reflect what the Agency has in mind.

Dennis Palmer at Barr Engineering Company advises me that a Remedial Action Plan for the Nutting property should be available during the latter part of the week of November 17, 1986. We will forward the RAP to you when it is available.

If you have any questions regarding the limited feasibility study or other matters relating to the Nutting site, please contact our office.

Very truly yours,

  
Becky A. Comstock

BAC/jmp  
Enclosure

cc: Stewart N. Shaft (w/encl.)  
Dennis Palmer (w/o encl.)



Engineering Company

REC'D NOV 13 1986

Douglas W. Barr  
John D. Dickson  
L. R. Molsather  
Allan Gebhard  
Leonard J. Kremer  
Dennis E. Palmer

November 13, 1986

Ms. Becky Comstock  
Dorsey & Whitney  
1200 First Bank Place East  
Minneapolis, Minnesota 55402

Re: Nutting Limited Feasibility Study

Dear Becky:

The MPCA letter of October 15, 1986 approved our August 11 Remedial Investigation (RI) report but asked that we provide a "limited feasibility study" to further document the determination that a feasibility study (FS) was not required. I have discussed the scope of such a limited FS with Frank Wallner and Sandra Forrest of the MPCA and the following discussion is intended to provide the requested information.

Alternative on-site and off-site remedial measures were considered during preparation of the RI report. Alternatives were initially screened in accordance with 40 CFR 300.68(h) to determine their relative costs, their effects, and whether they were applicable to the site in accordance with accepted engineering practices. The list of alternatives was selected from the methods summarized in 40 CFR 300.70. No other methods were identified as appropriate for consideration. The alternatives considered are summarized below:

Air Emissions Controls -- No alternatives considered because RI data did not show high concentrations of volatiles in the soils in the gravel pit fill area.

Surface Water Controls

- a. surface sealing of the disposal pit and the filled gravel pit area
- b. grading and diversion of runoff.

Groundwater Controls

- a. impermeable barriers, including slurry wall, piling or grout
- b. groundwater pumping for gradient control and plume containment, both on and off the Nutting property.

Treatment Methods

- a. air stripping of groundwater and soils
- b. soil encapsulation.

Waste Removal

- a. disposal pit excavation
- b. gravel pit excavation.

Alternative Water Supplies -- No alternatives considered because the RI indicated that contaminants from the Nutting property were not the source of contamination being measured at the city wells. No private potable wells are affected.

Table 1 summarizes the initial screening of the alternatives. Costs are approximated and include only construction costs since operation and maintenance costs will be similar for the most feasible alternates.

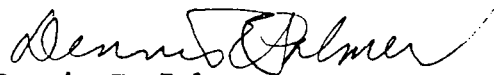
The initial screening indicated that the most feasible remedy involved groundwater gradient control and pump-out. This alternative best mitigates any plume which originates on the Nutting property. No concentrated source is known to exist; all known areas of contamination have such low concentrations that further treatment of those areas is not cost-effective when compared with the effectiveness and cost of the pump-out alternate.

Various pump-out locations were considered, including pumping wells near Well B15, near Well B4 and at both locations. A brief review of operation, maintenance and capital costs for various assumed combinations of operating periods showed that it was most cost-effective to place the pump-out system near Well B15. Since that location also provides the most effective capture zone for the identified plume, it was recommended in the RI report.

Although the RI report and this letter refer to the pump-out system as a "well", please note that a single well represents a minimum pump-out system. At the present time, we are completing our analysis of the data taken during test pumping of an 8-inch well constructed near Well B15. If necessary to achieve the desired degree of mitigation for the identified plume, an additional well may be included in the final pump-out system. The location of any additional well will be determined based on the ability of the system to achieve a capture zone similar to that shown in the RI report (for the St. Peter and surficial aquifers) at minimum cost (considering operation and capital costs).

If additional information regarding our feasibility considerations is required, please contact me.

Sincerely,

  
Dennis E. Palmer

DEP/111  
BC/332,0

TABLE 1  
INITIAL SCREENING OF ALTERNATIVE REMEDIAL ACTIONS  
THE NUTTING COMPANY  
FARIBAULT SITE

Description of Alternatives	Effects of Alternative (adequacy of control environmental effects)	Technical Feasibility (applicable to site location and conditions)	Relative Costs for Construction	Disposition
Surface Sealing in Pit Area	Prevents infiltration in filled pit area and leaching of contaminants to groundwater. However, soil contamination is extremely low and action would have no significant effect on existing contaminant plume in groundwater. Contamination of groundwater from volatilization of soil contaminants not reduced.	Can be implemented - area of disposal pit already sealed by concrete loading dock apron. Requires large amount of impervious fill.	\$40,000	Not recommended; little or no effect on plume.
Grading and Diversion of Surface Flow	Surface runoff onto pit area is from property only - all other runoff diverted by ditches or gutters. Site runoff now infiltrates - unless combined with sealing, the sandy soils will allow infiltration with or without grading. No effect on existing contaminant plume or contaminants coming from volatilization in the soil.	Can be implemented (fill required to get positive surface drainage).	\$15,000	Not recommended; little or no effect on plume.
Impermeable Barriers	Waste has been removed or found at very low concentrations; on-site barriers only control this area and would have little effect on areas of highest contaminant concentrations in the plume. Off-site barriers would be extensive and result in major impacts. Both need internal pumping to assure proper groundwater gradients.	Not feasible due to developed nature of neighborhood. Area surrounding property is completely developed with paved streets, sidewalks, landscaping, homes, etc. and plume will not be adequately enclosed by system limited to property.	Very High	Not considered due to high cost, limited effects and environmental impact.

TABLE 1 (cont.)

Description of Alternatives	Effects of Alternative (adequacy of control environmental effects)	Technical Feasibility (applicable to site location and conditions)	Relative Costs for Construction	Disposition
Groundwater Pumping for Gradient Control				
a) On-property	Captures contaminants at point of highest concentration. Prevents upgradient contaminants from migrating toward city wells. Does not affect most of downgradient plume due to high permeability of surficial aquifer; portions of downgradient plume would continue to migrate toward the city wells. May require air stripping for disposal.	Can be implemented; will require dedication of property which may impact usefulness of certain existing buildings. If "active" air stripping (stripping tower) required, cost is higher.	\$23,000	Not recommended because effectiveness less than for off-property system.
b) Off-property	Off property system captures most of contaminant plume. Uncaptured downgradient plume has low concentrations which will not cause problems at city wells. Captures any upgradient contaminants from Nutting property, including those which would be captured by on-property pumping.	Can be implemented; less likely to adversely impact use of existing buildings. Lower concentrations may need to be pumped longer, but passive air stripping in storm sewer should be adequate.	\$23,000	Recommended system. ✓
Air Stripping				
a) Groundwater	Primary contaminant will be removed from pumped water before release to environment to levels which pose no risk. This would be done in conjunction with pump-out alternatives.	a) Active Stripping - Small stripper would operate at the pump-out well. Would increase operating costs for little or no adjustment to risk level.	\$30,000	Not recommended because levels of contaminants in pump-out flows at Location B15 expected to be less than 100 ppb.
		b) Passive Stripping - Flow in aerobic storm sewer system will be turbulent and induce stripping before discharge into creek about 1,400 feet downstream.	\$ 0	Recommended system because of expected low contaminant levels in pump discharge. ✓

TABLE 1 (cont.)

Description of Alternatives	Effects of Alternative (adequacy of control environmental effects)	Technical Feasibility (applicable to site location and conditions)	Relative Costs for Construction	Disposition
b) Soil	Aeration will volatilize majority of contaminants in soil, but since concentrations are so low, net effect on plume not expected to be noticeable. Would have no effect on existing plume in groundwater.	Site permits excavation and grading for aeration. However, borings indicate presence of non-hazardous fill in same area, and the degree to which it would be necessary to relocate such fill during the treatment process is unknown. Such material will complicate the treatment and increase costs.	\$20,000 (plus unknown relocation of non-hazardous material)	Not recommended as cost-effective.
Soil Encapsulation (Vault)	Contaminated soils would be isolated from groundwater by impervious soils. This alternative will have no effect on the existing plume and is expected to have no measurable effects on future plume concentrations.	Site permits construction of vault. However, vault would probably require dedicated area, with potential impacts on future usefulness of property. Much of soil in vault would be uncontaminated because any contaminated soil is widely distributed and at low concentrations.	\$30,000 (+ reduced property value)	Not recommended as cost-effective.
Disposal Pit Excavation	Removal of hazardous material eliminates source of contaminants.	Completed in 1980. Data from Well B1 suggests removal was successful. No other known concentrated sources remain.	—	Completed.
Gravel Pit Excavation	Same as soil treatment, encapsulation, grading and capping alternates above.	Although possible, action offers little or no advantages when compared to significant cost.	See above	Not recommended as cost effective.

## Office Memorandum

DATE : OCT 13 1986

TO : Nutting File

FROM : Frank X. Wallner, Project Manager FXW  
Sandra Forrest, Hydrologist SX  
Responsible Party Unit I

PHONE : 296-7384/296-7390

SUBJECT : NUTTING FEASIBILITY STUDY

Part V of the Consent Order (Order) dated April 26, 1984 states that Nutting shall make a recommendation to the Minnesota Pollution Control Agency (MPCA) Director regarding the need for a Remedial Action Feasibility Study. Part V, Task D of Exhibit A to the Order states that the MPCA Director shall base a determination on the need for a Feasibility Study (FS) on 4 factors. These factors and our responses to them are discussed below in order to document the MPCA's decision not to require an FS for the Nutting Site (Site).

Factor 1) The level and extent of existing and anticipated future ground water contamination originating from the Nutting property in the drift/St. Peter and the Prairie du Chien aquifers and the effect of this contamination on private wells and Faribault municipal wells.

Faribault municipal wells draw water primarily from the Prairie du Chien and deeper aquifers. However, of the three Prairie du Chien monitoring wells on or near the Nutting Site only one - the on-site well - showed a low (2 ppb) concentration of trichloroethylene (TCE). The overlying drift/St. Peter aquifer has shown elevated TCE concentrations both on and off site, indicating a localized plume of contamination which does not appear to have reached the municipal well field. The Agency is not aware of any private well supplies which have been impacted by the drift/St. Peter aquifer contamination. Furthermore, the Site's major source of trichloroethylene contamination (a disposal pit) was excavated and properly landspread under SDS Permit No. MNLO51594.

Factor 2) The character of the confining layer at the base of the St. Peter sandstone.

Rock corings drilled during the RI indicate that the basal unit of the St. Peter sandstone appears to be less permeable than the upper units. Although the basal St. Peter may tend to retard vertical migration, it does not appear to be a confining unit. More significantly, there is a slight upward gradient between the Prairie du Chien and the overlying drift/St. Peter aquifers. This will tend to prevent downward migration of dissolved contaminants to the Prairie du Chien aquifer, which the water supply for Faribault.

- Factor 3) The level of ground water contamination detected in monitoring wells, private wells and Faribault municipal wells during the course of the RI.

Individual municipal wells (not the supply reservoir) have shown TCE concentrations above drinking water limits for TCE. Data collected during the RI, however, shows that the contaminant plume downgradient from the Nutting property is localized and the apparent leading edge is moving slowly toward the north-northeast, generally toward the City well field. The greatest concentration of TCE (up to 500 ppb) is found on-site in the shallow drift/St. Peter aquifer. Very low concentrations (2 ppb) were observed in the Prairie du Chien aquifer on site. Based on current information, it appears the contaminant plume from Nutting has not yet influenced the Municipal well field. The Agency is not aware of any private wells which would be subject to TCE contamination in the Nutting vicinity.

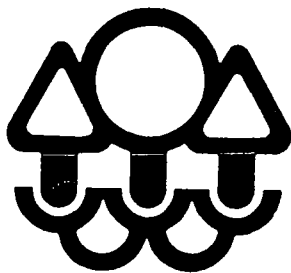
- Factor 4) An identifiable remedial action which remedies contamination of private wells and the Faribault municipal wells and is technically feasible, cost effective, and without significant adverse impact on the environment.

Although current data indicates that TCE contamination from the Nutting Site has not contaminated private or municipal wells, Nutting has proposed a Remedial (Action Ewyc vtpanctv of swtycpt oit kteahatv wfsyw /fct fh veahofPoX Etote) contamination. Remedial Action options at the Nutting Site appear very limited. Nutting has proposed, and Agency staff concur, that a ground water pumpout system is the appropriate remedial measure. Such a system would intercept the localized drift/St. Peter aquifer contamination and discharge to a nearby sanitary sewer under an NPDES Permit. The use of an air-stripping device would be dependent on TCE concentrations in the pump-out effluent.

#### Conclusion

The Agency's preliminary review indicates that the proposed ground water pump-out system will be technically feasible, cost effective, and without significant adverse impact on the environment. Consequently, Agency staff believe that a Feasibility Study is not justified. It is important to note that even though a Feasibility Study is not recommended, Nutting will be required to submit a detailed proposal which assesses the feasibility of the proposed pumpout system, and receive Agency approval, prior to implementation.

FXW:jb



## Minnesota Pollution Control Agency

October 10, 1986

Mr. Dennis Palmer  
Barr Engineering Company  
7803 Glenroy Road  
Minneapolis, Minnesota 55435

Dear Mr. Palmer:

Staff of the Minnesota Pollution Control Agency (MPCA) have reviewed Barr Engineering's "Specifications for Pump-Out Well Installation" dated September 1986. The specifications give further details for the pump-out system proposed in Nutting's Final Remedial Investigation (RI) Report dated August 11, 1986. It is the Agency's understanding that this pump-out system will provide data for Nutting's Final Response Action Plan.

Agency staff have no comments regarding the pump-out system and hereby approve its implementation. Please notify me when the pump test is to begin and forward the results as soon as they are compiled.

If you have any questions I can be reached at 296-7384.

Sincerely,

Frank X. Wallner  
Project Manager  
Responsible Party Unit I  
Site Response Section  
Division of Solid and Hazardous Waste

FXW:jb

cc: Ms. Becky Comstock  
Mr. Stewart Shaft

Phone:

1935 West County Road B2, Roseville, Minnesota 55113-2785

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